

## ABSTRACT

A micro-relay device is provided including a fluid non-conductor. A first substrate and a second substrate are bonded together. A channel is defined in at least one of the substrates, and has a liquid metal in the channel. Electrodes are spaced along the channel and 5 selectively interconnectable by the liquid metal. An open via is defined in one of the substrates and contains the fluid non-conductor. A heater substrate includes a suspended heater element in fluid communication with the open via. The suspended heater element is operable to cause the fluid non-conductor to separate the liquid metal.